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AGO ltr 29 Apr 1980

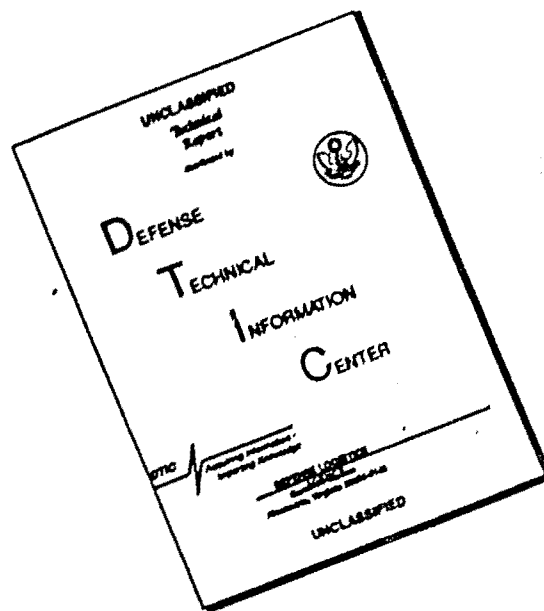
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (25 Jul 68) FOR OT RD 682189

9 August 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 36th
Engineer Battalion, Period Ending 30 April 1968

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl
as

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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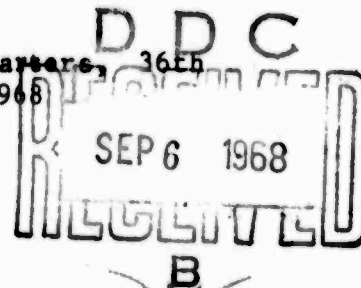
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36th Engineer Battalion (Const)



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DEPARTMENT OF THE ARMY
HEADQUARTERS 36TH ENGINEER BATTALION (CONST)
APO San Francisco 96291

EGFE-OP

13 May 1968

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR R1) For Quarterly
Period Ending 30 April 1968

Commander-in-Chief, United States Army, Pacific, ATTN: GPOP-OT, APO 96588
Commanding General, United States Army, Vietnam, ATTN: AVHGC-OH, APO 96307
Commanding Officer, 34th Engineer Group (Const), ATTN: EGF-OP, APO 96291

1. SECTION 1. OPERATIONS - Significant Activities

a. On 1 February, the earth-moving platoon of D Company, 36th Engineer Battalion was moved to Nui Dat, approximately 18 miles North of Vung Tau, to begin construction of a Type II, C-130 airfield for the 1st Australian Task Force. Close coordination was effected with the Australians wherein they provide, billeting, messing and POL facilities for the duration of the project.

b. On 21 February, the Battalion BOQ was completed in the cantonment area and all officers occupied the facility on that date. Previously, the officers had been billeted in three separate BOQ's scattered throughout Vung Tau. This move increased control and effectiveness of the officers within the battalion immeasurably as well as providing an increased measure of physical security.

c. During the reporting period a change of command occurred in five of the seven companies within the battalion. Those companies affected were HHC, 36th Engr Bn; E Co, 36th Engr Bn; D Co, 36th Engr Bn; 67th Engr Co (DT) and the 544th Engr Co (CS). Only one change was the result of normal rotation, the others occurring because of loss of personnel to higher headquarters which required selection of new company commanders.

d. On 6 March, the 120 TPH Hot Mix Asphalt Plant was placed into operation by the 544th Engineer Company (CS). The plant has since produced material for paving of the Vung Tau Army Airfield and National Route, QL-15, in the vicinity of Vung Tau. The plant is one of three operational in the 20th Engineer Brigade.

e. On 25 March, the battalion lost the attachment of the Quarry Section from the 591st Engineer Company (LE), due to relocation of the 591st to another Corps Tactical Zone. This detachment had been utilized under the control of A Company, 36th Engineer Battalion in operating the Gia Ray Quarry.

f. On 1 April, a platoon sized task force from D Company, 36th Engineer Battalion road marched from Vung Tau to Blackhorse, a distance of 70 road miles, to provide interim construction support for the 11th Armored Cavalry Regiment. This move was necessitated by the relocation of the 27th Engineer Battalion (Cbt), from Blackhorse to a new Corps Tactical Zone. The platoon returned to Vung Tau on 30 April after the arrival of the 31st Engineer Battalion (Cbt) at Blackhorse.

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g. On 1 April, a construction platoon from D Company, 36th Engineer Bn was co-located with the 67th Engineer Company (DT) at Ba Ria for purpose of permanent repair and general up-grading on National Route, QL-15, from Ba Ria to the Phuoc Tuy - Bien Hoa Province Boundary. The platoon's mission is to repair damage caused by enemy interdiction during the TET Offensive and to establish adequate drainage structures to prevent road closure during the coming Monsoon season.

h. On 1 April, a Land Clearing Team, composed of five Rome Plows, one maintenance contact truck, one officer and twelve enlisted men was formed and placed in direct support of the 1st Australian Task Force for use in Operation PINNAROO. The operation was intended to clear jungle in the Long Hai area and thereby deny the enemy use of an area held by him for a period of years. The operation continued beyond the end of the reporting period and will be fully covered in the next ORLL submitted.

i. On 15 April, the previous Battalion Commander, LTC Thomas C. Hunter Jr was reassigned and the battalion is now commanded by LTC Richard E. Leonard.

j. On 22 April, the medical dispensary was completed in the battalion area, thus providing a local facility for minor surgery. This facility contributes to the efficient handling of sick call and emergency cases, eliminating the need for patient transport to medical facilities somewhat removed from the battalion location.

k. On 25 April, the decision to cease operation at Gia Ray quarry was approved. Preparations by A Company, 36th Engineer Battalion, were begun to commence movement from Gia Ray to Vung Tau on or about 1 May. This relocation was deemed necessary because of the increased requirement for rock export from Vung Tau to the Delta. All equipment currently located at Gia Ray will be moved to Vung Tau to include the 225 TPH crusher complex.

l. On 26 April, work was completed at Ham Tan by the earthmoving platoon of B Company, 36th Engineer Battalion and preparation and staging of equipment for sea transport to Vung Tau was begun. At the close of the reporting period, the unit was awaiting arrival of sea transportation.

m. During the period 26 thru 30 April the battalion conducted a rock crusher school, to instruct newly arrived quarry personnel in the operation and maintenance of the 75 TPH crushers. The class was conducted by USAMECOM personnel and ten individuals were graduated.

n. During the reporting period, 250 newly arrived personnel were received and processed by the battalion as replacements for rotation losses. This represents a personnel turnover of approximately 20% during the period. In addition, 41 personnel were received from the 93rd Engineer Battalion, in an infusion program.

o. During the period the battalion expended 78 days performing its construction and support missions, six days undergoing mandatory training and six days non-duty time.

13 May 1968

SUBJECT: Operational Report - Lessons Learned for Quarterly Period

2. SECTION 2, LESSONS LEARNED: Commanders Observations, Evaluations and Recommendations.

a. Personnel

(1) In-processing of Personnel

(a) Observation: Because of widely scattered assignment locations and difficulty of transportation, all personnel should be completely processed at battalion prior to assignment within the unit.

(b) Evaluation: The heavy burden of in-processing personnel became apparent with the arrival of 250 replacements during the period. Their in-processing consisted of a personal affairs briefing emphasizing US Government Life Insurance benefits, Savings Deposits and emergency notification of next of kin. Each man's personnel records were thoroughly reviewed, posted and where necessary, new documents such as DD 98, 398 and DA Form 41 prepared. In addition, an AOR preference sheet and a Home Town News Release are completed. The man is then given his assignment. Processing requires about 45 minutes.

(c) Recommendations: That the Unit Personnel Officer establish a thorough in-processing system for all new arrivals so as to preclude the possibility of having to recall personnel at a later date when they are likely to be committed to projects at distant or inaccessible locations.

(2) Lack of Experience in Replacement Personnel

(a) Observation: During the period the battalion has experienced rather heavy losses of skilled personnel because of DEROS and infusion programs.

(b) Evaluation: Because of loss of skilled personnel which had been with the unit for some time and their subsequent replacement with relatively unskilled individuals, the construction companies have been hampered in attaining efficient, high quality work. This has required extensive OJT programs.

(c) Recommendation: It is imperative that all unit commanders insure that all cross-training of key personnel is accomplished to a maximum in order to lessen the impact of personnel losses.

(3) Use of Local National Foreman

(a) Observation: In dealing with local national employees, much more work is accomplished if suitable local national foreman can be obtained.

(b) Evaluation: When employing local nationals it was discovered that a US supervisor using supervisory techniques appropriate for military personnel might unwittingly offend the local national laborers either by voice inflection, loudness or lack of understanding, resulting in a decrease in efficiency by the laborer. It was noted that efficiency was much higher among laborers who were directly supervised by competent local nationals who were in turn supervised by US personnel.

(c) Recommendation: That wherever possible, local national supervisors with some English language comprehension be employed to directly supervise local hire labor.

SUBJECT: Operational Report - Lessons Learned for Quarterly Period

b. OPERATIONS:

(1) Transportation of 40 ton Cranes

(a) Observation: Transportation of 40 ton crawler mounted cranes on the TO&E 60 ton low bed trailer resulted in inordinate tire failure on the trailer.

(b) Evaluation: Because of extremely poor road conditions in Vietnam it was discovered that transport of 40 ton shovels or cranes caused a great amount of tire failure on the 60 ton trailers. Removal of the boom/shovel front from the crane resulted in sufficient weight decrease and load stability that tire failure was subsequently reduced.

(c) Recommendation: Whenever long moves are required utilizing the 60 ton low bed tractor and 40 ton crane, that the boom/shovel front be removed prior to transport. Time involved in removal of the component is much less than average time lost during convoy due to tire failure.

(2) Utilization of 10 Ton Jib on 20 Ton Crane

(a) Observation: Extensive vertical construction work in Vietnam places 20 ton boom extensions in great demand.

(b) Evaluation: It was found that the 15' jib from a 10 ton track mounted crane could be utilized in lieu of additional standard 10' boom extensions on the TO&E 20 ton truck mounted cranes.

(c) Recommendations: That 10 ton track mounted crane jibs be utilized to give added length to 20 ton truck mounted crane booms when standard 20 ton extensions are not available.

(3) Extending Welding Machine Leads

(a) Observation: In many situations it is impossible to place a welding machine close enough to the work site to utilize existing leads.

(b) Evaluation: In cases where welding leads are not long enough to permit operation in a restricted site, 1/0 insulated wire can be spliced to the end of the lead allowing an operating radius of several hundred feet from the machine.

(c) Recommendation: That 1/0 wire be spliced to welding machine leads to provide access in restricted sites when additional leads are not available.

(4) Application of Non-skid Compound

(a) Observation: Utilization of organic sprayers greatly enhances application of non-skid compound.

(b) Evaluation: Because of lack of personnel to hand apply non-skid compound to an M8A1 runway surface, spraying of the compound was attempted utilizing the TO&E sprayers available to a line company. Uniform and rapid application was obtained by cutting the non-skid compound 1:1 with thinner and spraying through a 1/8" nozzle to prevent clogging.

(c) Recommendation: That non-skid compound be cut 1:1 with thinner and applied through a sprayer to M8A1 runway surfaces.

SUBJECT: Operational Report - Lessons Learned for Quarterly Period

(5) Lack of Penetration of MC-800 as a Prime Coat

(a) Observation: Thinning of MC-800 with JP-4 increases penetration on tightly bound base courses.

(b) Evaluation: In some cases due to non-availability of more suitable cutback asphalts, MC-800 had to be used as a prime for application on tightly bound base courses. It was found that a mixture of 1 part JP-4 to 7 parts MC-800 subsequently increased penetration of the prime coat.

(c) Recommendation: That JP-4 be used to increase penetration of MC-800 as a prime coat provided all personnel are carefully briefed on the hazards involved in handling the mixture.

(6) Sloughing of Drill Holes

(a) Observation: Laterite and water can be used as a drilling mud to stabilize drill holes.

(b) Evaluation: When drilling on quarry floors where excessive diced rock is present, excessive sloughing of the drill hole occurred resulting in a conical opening which allowed rain and debris to enter the hole hampering loading and tamping operations. It was found that by using a laterite and water slurry in the first two feet of drilling that the voids around the bit were filled with the laterite. The resultant heat from drilling and the hot air exiting the hole baked the slurry and formed a stable drill hole.

(c) Recommendations: That a laterite or other cohesive material slurry be used during initial drilling in fractured material to stabilize drill holes.

(7) Alternate Power Supply for Operations Center

(a) Observation: During a rocket attack the central source of power was cut-off resulting in a temporary loss of communications capability in the battalion TOC.

(b) Evaluation: It was discovered that during a rocket attack the primary source of power was cut-off leaving the TOC radios without a source of power. Although a standby battery source was on hand when pressed into service it proved non-functional resulting in a communications loss for a short period of time.

(c) Recommendations: That a standby generator be made an integral part of the battalion TOC and that it be serviced and operated daily to insure a ready source of secondary power.

c. TRAINING

(1) Prevention of Injuries While Moving to Protective Bunkers

(a) Observation: Judicious arrangement of billet areas and emphasis on orderly movement of personnel will reduce injuries caused by rapid movement to protective bunkers during rocket/mortar attacks.

(b) Evaluation: Many injuries occur to personnel while moving to protective bunkers during rocket/mortar attacks as result of collisions with footlockers, chairs etc... and a general unfamiliarity with most desirable route to bunkers. By rearranging billet areas to provide uncluttered aisles and passageways, and by briefing and familiarizing personnel with routes of exit to bunkers many minor injuries can be avoided.

SUBJECT: Operational Report - Lessons Learned for Quarterly Period

(c) Recommendation: That unit commanders frequently inspect billet areas to insure that aisles are open and that personnel be briefed periodically on procedures to follow during "stand-off" type attacks.

- d. Intelligence: (None)
- e. Logistics: (None)
- f. Organization: (None)
- g. Maintenance:

(1) Shortage and Buildup of Bucket Loader Teeth

(a) Observation: Pads can be fabricated to prolong life of bucket loader teeth.

(b) Evaluation: Because of extensive use of bucket loaders to load blast rock as well as crushed rock, mortality of bucket loader teeth is very high. Life of the teeth can be prolonged by welding scrap material to the bottom of the teeth.

(c) Recommendation: Cut 3'x9" pads from discarded grader cutting edges and weld to the bottom of the worn bucket loader teeth.

(2) Air Intake Stacks for Rock Crushers

(a) Observation: Fabrication of air inlet stacks will significantly reduce engine wear on rock crushers.

(b) Evaluation: Nearly all crushers are issued with short air intake stacks, thus air provided to the engine comes from an environment where dust is extremely prevalent. Fabrication of a 25 to 30 foot high intake stack which can be installed on each engine will reduce significantly the dust concentration in the air entering the engine prolonging engine life and reducing air cleaner maintenance.

(c) Recommendation: That 6" to 8" diameter thin-wall POL pipe be fitted with a rain shield and installed on each crusher engine.

(3) Cleaning Spray Bar and Nozzles on Asphalt Distributors

(a) Observation: Soaking of spray bars & nozzles on asphalt distributors overnight will significantly reduce clogging of nozzles.

(b) Evaluation: Significant clogging and blocking of spray nozzles was noted when distributors were parked overnight. Overnight soaking of the entire spray bar in solvent prevented clogging and permitted more useable hours of the distributor.

(c) Recommendations: Two halves of a 55 gallon should be welded together end to end to form a long trough. This trough can then be filled with solvent and the spray bar assembly immersed overnight.

(4) Lack of Repair Parts for Non-TOE Equipment

(a) Observation: Lack of repair parts for non-TOE equipment causes excessive delay in operation of critical mission essential equipment.

(b) Evaluation: Because this unit is dependent on a great amount of non-TOE equipment for quarry and crushing operations, the lack of repair parts for this equipment significantly reduces rock production.

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(c) Recommendations: That a procurement system be established that is responsive to user needs to eliminate excessive down-time and loss of production.

Richard E Leonard

1 Incl
Organizational Structure

RICHARD E. LEONARD
LTC, CE
Commanding

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EGF-OP (13 May 68) 1st Ind
SUBJECT: Operational Report - Lessons Learned : RCS CSFOR-65(R1) For
Quarterly Period Ending 30 April 1968

DA, HQ, 34th Engineer Group (Const), APO 96291, 21 May 1968

TO: Commanding General, 20th Engr Bde, ATTN: AVBI-OS, APO 96491

1. The subject report submitted by the 36th Engr Bn has been reviewed by this HQ and is considered comprehensive and of value for documentation and review of the reporting unit's activities and experiences.

2. This HQ concurs with the submitted report with the following comments:

a. Ref SUBJECT, page 1: Reports Control Symbol should read RCS CSFOR-65(R1).

b. Ref para 1h, page 2: The Land Clearing Team was a Group task force composed of equipment and/or personnel of the 36th Engr Bn, 86th Engr Bn, and 536th Engr Det (PC). The 36th Engr Bn was assigned responsibility for the mission.

c. Recommendations stated in the below referenced "Commanders Observations" are considered applicable but minor. They are either normally found incorporated within an engineer battalion's SOP or are published army-wide policies.

Ref para 2a(1), page 3

Ref para 2a(2), page 3

Ref para 2b(7), page 5

Ref para 2c, page 5

d. Recommendations stated in the below referenced "Commanders Observations" are considered noteworthy to merit consideration for possible adoption army-wide. No additional amplification is required by this HQ as the recommendations are self explanatory and the resulting benefits obvious.

Ref para 2b(2), page 4 (when used within prescribed safety limits)

Ref para 2b(6), page 5

Ref para 2g(1), page 6

Ref para 2g(2), page 6

Ref para 2g(3), page 6

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AVBI-OS (13 May 68) 2nd Ind
SUBJECT: Operational Report - Lessons Learned, RCS CSFOR-65(R1) for
Quarterly Period Ending 30 April 1968.

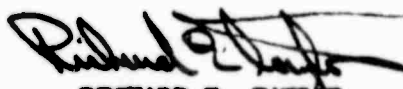
DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO SF 96491

TO: Commanding General, USARV, ATTN: AVHEM-MO, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated
13 April 1968.

2. Subject report for 36th Engineer Battalion (Construction) has
been reviewed and is considered adequate.

FOR THE COMMANDER:



RICHARD E. TAYLOR
1LT, AGC
Assistant Adjutant

AVHGD-DST (13 May 68) 3d Ind

CPT Arnold/ms/LBN 4485

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR RI) For Quarterly
Period Ending 30 April 1968

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HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT
APO 96558

1. This headquarters has reviewed the Operational Report - Lessons Learned for the quarterly period ending 30 April 1968 from Headquarters, 36th Engineer Battalion (Const).

2. Concur with report as submitted.

FOR THE COMMANDER:

s/ John V. Gretchell
t/ JOHN V. GRETCHELL
Captain, AGC
Assistant Adjutant General

Copies furnished:
HQ, 20th Engr Bde
HQ, 36th Engr Bn (Const.)

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GPOP-DT (13 May 68) 4th Ind
SUBJECT: Operational Report of HQ, 36th Engr Bn (Const) for Period
Ending 30 April 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 8 JUL 1968

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorse-
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



C.L. SHORTT
CPT, AGC
Asst AG

ORGANIZATIONAL STRUCTURE

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1. ORGANIC UNITS:

- a. HHC, 36th Engineer Battalion (Const)
- b. A Company, 36th Engineer Battalion (Const)
- c. B Company, 36th Engineer Battalion (Const)
- d. C Company, 36th Engineer Battalion (Const)
- e. D Company, 36th Engineer Battalion (Const)

2. ATTACHED UNITS:

- a. 67th Engineer Company (DT)
- b. 544th Engineer Company (CS)
- c. 94th Engineer Detachment (QUARRY)
- d. Quarry Section, 595th Engineer Company (LE)
- e. Quarry Section, A Company, 93rd Engineer Battalion
- f. 156th Engineer Detachment (Well Drilling)

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INCL 1

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CO, 36th Engineer Battalion (Const)			
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